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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/494,876 | 01/31/2000 | Michael A. Crane | AUS000085US1 | 4071 |

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| EXAMINER |
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SIMITOSKI, MICHAEL J

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| ART UNIT | PAPER NUMBER |
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2134

DATE MAILED: 11/10/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/494,876

Applicant(s)

CRANE ET AL.

Examiner

Michael J Simitoski

Art Unit

2134

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 January 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☒ Claim(s) 3, 13 and 19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 January 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

NORMAN M. WRIGHT
PRIMARY EXAMINER

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-26 are pending.

Drawings

2. The drawings are objected to because in Fig. 5, element 510, "CDSN" should be replaced with "CDSA". A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because of the following informalities:

On page 10, line 20, "send" should be replaced with "sends"

On page 18, line 3, "as" should be replaced with "a"

On page 22, lines 20-21 are unclear; the examiner suggests "verifying proof of possession of a private key", or other alteration to clarify specification.

Appropriate correction is required.
4. The disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code on page 14, line 14. Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code. See MPEP § 608.01.

Claim Objections

5. Claims 3 and 19 are objected to because of the following informalities: “routing” should be replaced with “routine”.
6. Claim 13 is objected to because of the following informalities: “form” should be replaced with “from”.

Appropriate correction is required.

Note: The following references, authored by Sun Microsystems, collectively describe the Java Platform 1.2, 1998:

Jarsigner – JAR Signing and Verification Tool (packaged with JDK 1.2, 1998).

“Java Platform 1.2 API Specification: Class KeyStore” (describing the KeyStore class in the Java Security Package of the Java 1.2 application program interface, 1998).

“The Java Virtual Machine Specification” (describing Java operating environment, 1997).

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claim 1-5, 7-9 and 17-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Sun Microsystems’s JAVA Platform v1.2 (JDK 1.2), published December 1999, partly described in documents “jarsigner – JAR Signing and Verification Tool” (jarsigner), “VM Spec Structure of

the Java Virtual Machine” (VM Spec) and “Java Platform 1.2 API Specification: Class KeyStore” (API Spec).

Regarding claims 1, 5, 17, 21 and 26, Sun discloses the jarsigner tool as an example implementation of JDK 1.2. The jarsigner tool/routine is called by a user who identifies the keystore containing a key to be used (see jarsigner, page 4, § KeyStore Aliases). Jarsigner performs operations such as signing Java Archive (JAR) files and verifies signatures (see jarsigner, page 1, § Description). While the jarsigner reference does not disclose creating a data structure and sending the data structure to the routine, whenever a Java method is instantiated, a Java Virtual Machine frame/data structure is created to store data and partial results used by the method/routine (see § 3.6, VM Spec).

Regarding claims 2 and 18, Sun discloses a function *containsAlias* that determines if the given key is in the keystore (see page 9, API Spec). Sun further discloses a *deleteEntry* function that is used to delete keys from the keystore; the function throws *KeyStoreException* when a key cannot be recovered (see page 6, API Spec). When Java encounters an exception, invoked methods complete abruptly (see § 2.15, VM Spec), and the code that caused the exception is never resumed (see § 2.15.2, VM Spec).

Regarding claims 3, 4, 7, 19, 20 and 23, Sun discloses that each frame/data structure represents a particular method and comprises memory space for local variables and an operand stack/configuration. The stack frame is created/initialized as part of method instantiation, after which execution occurs (see § 3.6, VM Spec).

Regarding claims 8 and 24, the Java Platform 1.2 API Specification presents first receiving means/methods called from applications. Results are returned to the first receiving

Art Unit: 2134

means/method via the second receiving means/stack frame upon completion of the current method instance. Methods then return their results to the calling application (see § 2.1 & § 3.6, VM Spec).

Regarding claims 9 and 25, Sun discloses methods such as *setKeyEntry* and *deleteEntry* for the purposes of updating the keystore (see pages 7 and 8, API Spec).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 6 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over JDK 1.2 in view of Release 1.0 of Intel's Common Data Security Architecture, partly described in "Common Security Services Manager: Service Provider Interface (SPI) Specification", published October 1996. Sun discloses JDK 1.2 as described above, but lacks a routine being a Common Data Security Architecture plug-in. Intel teaches that the CDSA defines an extensible architecture to manage add-in security modules, used for building secure protocols and secure systems (see pages 1-4, Intel). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate JDK 1.2 as a layer in Intel's architecture to gain the benefit of the Intel architecture's extensibility. One of ordinary skill in the art would have been motivated to perform such a modification to gain the benefit of a more extensible system useful in building secure protocols and secure systems, as taught by Intel.

11. Claims 10-12 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Release 1.0 of Intel's Common Data Security Architecture, partly described in "Intel's Common Data Security Architecture", by Intel Corporation (Intel) published December 1996 in view of Sun Microsystems's JAVA Platform v1.2 (JDK 1.2), partly described in "Java Platform 1.2 API Specification: Class KeyStore" (API Spec) and "VM Spec Structure of the Java Virtual Machine" (VM Spec), by Sun Microsystems (Sun).

Regarding claims 10 and 11, Intel discloses a security layer/CSSM and a plurality of cryptographic routines/CSPs accessed through a security layer/CSSM (see page 33). Intel further discloses applications calling routines/services through the security layer/CSSM to perform cryptographic operations and receiving the results (see page 10), but lacks a keystore and a keystore application program interface layer coupled to the security layer. However, Intel discloses a "Java to CSSM Wrapper"/keystore application program interface layer (see page 33). Referring to the API Spec, Sun discloses a keystore class for creating "keystores", enabling the storage and management of cryptographic keys (see page 1). Referring to VM Spec, Sun teaches that JDK 1.2 offers the benefits of multi-platform compatibility, small code size and user security (see § Introduction, paragraph 7 titled "The Java Virtual Machine"). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include a keystore and "Java to CSSM Wrapper"/keystore application program interface layer in the CDSA to manage keys. One of ordinary skill in the art would have been motivated to perform such a modification, as suggested by Intel, to gain the benefits of Java's multi-platform compatibility, small code size and user security, as taught by Sun.

Regarding claim 12, Intel discloses a plurality of plug-ins/CSP modules (see page 10).

Regarding claim 14, Sun discloses methods that operate upon a particular keystore through the Java API, which calls underlying routines to perform the instructions of the methods (see pages 2-3 of API Spec).

Regarding claim 15, Sun discloses methods such as *setKetEntry* and *deleteEntry* for the purposes of updating the keystore (see pages 7 and 8, API Spec).

Regarding claim 16, Sun discloses that when a Java method is instantiated, a Java Virtual Machine frame/data structure is created to store both data and partial results used by the method/routine (see § 3.6, VM Spec).

12. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Intel in view of Sun, as applied to claim 10 above, in further view of Java Cryptography by Jonathan Knudsen. Intel discloses a cryptographic system with a keystore, as modified above, but lacks particular motivation for having multiple keystores. Knudsen teaches that a keystore “contains all the information a single person (or application, or identity) needs for authentication,” (see page 79) where “single” indicates multiple users/keystores. Knudsen further teaches loading and saving keystores, indicating that multiple keystores are used (see page 81). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use multiple keystores representing different entities requiring authentication. One of ordinary skill in the art would have been motivated to perform such a modification to support multiple entities needing authentication.

Art Unit: 2134

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Simitoski whose telephone number is (703)305-8191.

The examiner can normally be reached on Monday - Thursday, 8:00 a.m. - 5:30 p.m.. The examiner can also be reached on alternate Fridays from 8:00 a.m. - 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Morse can be reached on (703)308-4789.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, DC 20231

Or faxed to:

(703)746-7239 (for formal communications intended for entry)


Or:

(703)746-7240 (for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA 22202, Fourth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-9000.


MJS
23 October 2003


11/3/03
NORMAN M. WRIGHT
PRIMARY EXAMINER